

ABSTRACT OF THE DISCLOSURE

Disclosed is an adaptive transmitting and receiving device and method using frequency division duplexing. A transmitter transmits a preamble or a pilot to a receiver. The receiver estimates a received SNR from the preamble or pilot, determines parameters (received log likelihood ratio parameters) of determining the distribution of the received log likelihood ratio, and feeds them back to the transmitter. The transmitter adaptively determines an antenna method, a modulation method, and a transmit power according to the parameters, and adaptively transmits traffic data to the receiver according to the determined antenna method, the modulation method, and the transmit power.